

**AMENDMENTS TO THE SPECIFICATION**

Please replace the paragraph 0021 with the following amended paragraph:

Once the dose level has been set, the user input device [[10]]20 enables a scan controller 50 to initiate a CT scan. As the radiation source 12 is rotated around the examination region, a reconstruction processor 52 reconstructs the image data from the detector [[44]]14 into a diagnostic image representation. A thresholding means or algorithm 54 thresholds the resultant diagnostic image to differentiate calcium from other tissue, e.g., at 130 HU. The thresholded, calcium-enhanced image representation is stored in an image memory 56. A video processor 58 withdraws selected portions of the calcium-enhanced image representation for display on a monitor 60. Preferably, one or more prior calcium scans of the same subject are retrieved from an archive 62. A comparing algorithm or means 64 compares the most recent calcium scan image representation from the memory 56 with the archived image representations. The video processor may then convey a difference image between the most recent calcium scan image representation and a selected prior calcium scan representation to the monitor to generate a display indicative of the change in calcium between the two scans. Optionally, a cine image processor 66 displays the historical and new image sequentially in a cine mode. A calcium score calculator 68 calculates the calcium score from the current image. A graphing means or processor 70 compares a plurality of calcium scores, including the current calcium score and others from the archive to generate a graphical display indicative of calcium build-up.